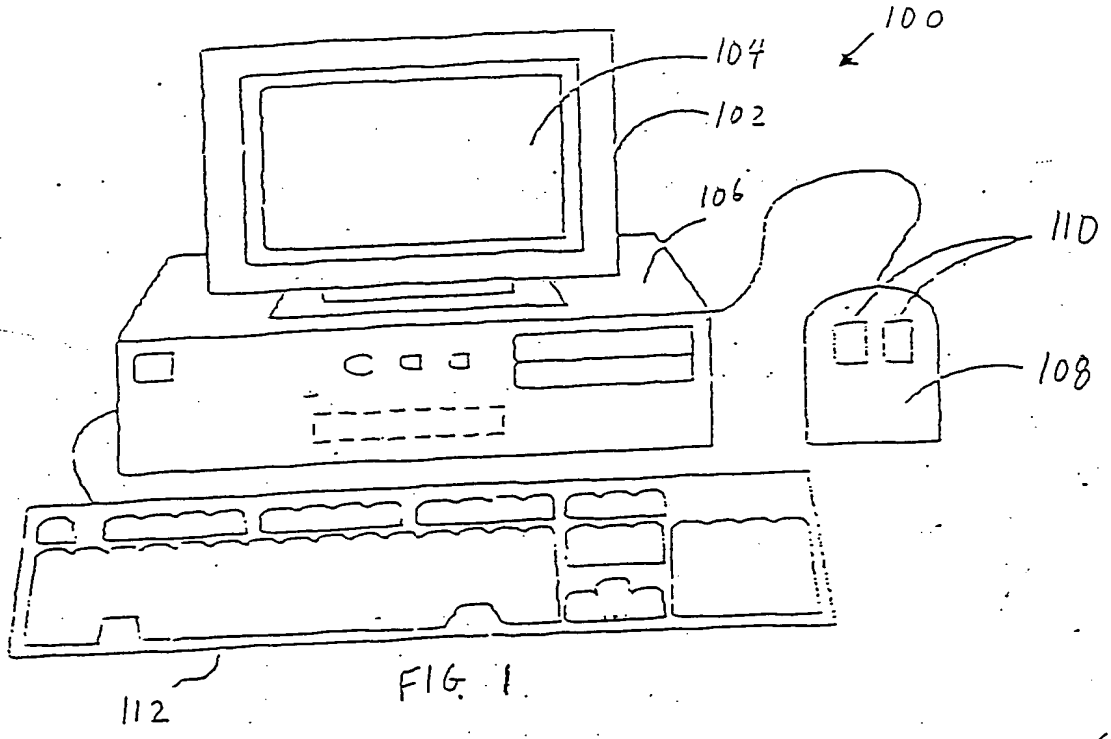
100
104
102
106
110
108
112

FIG. 1

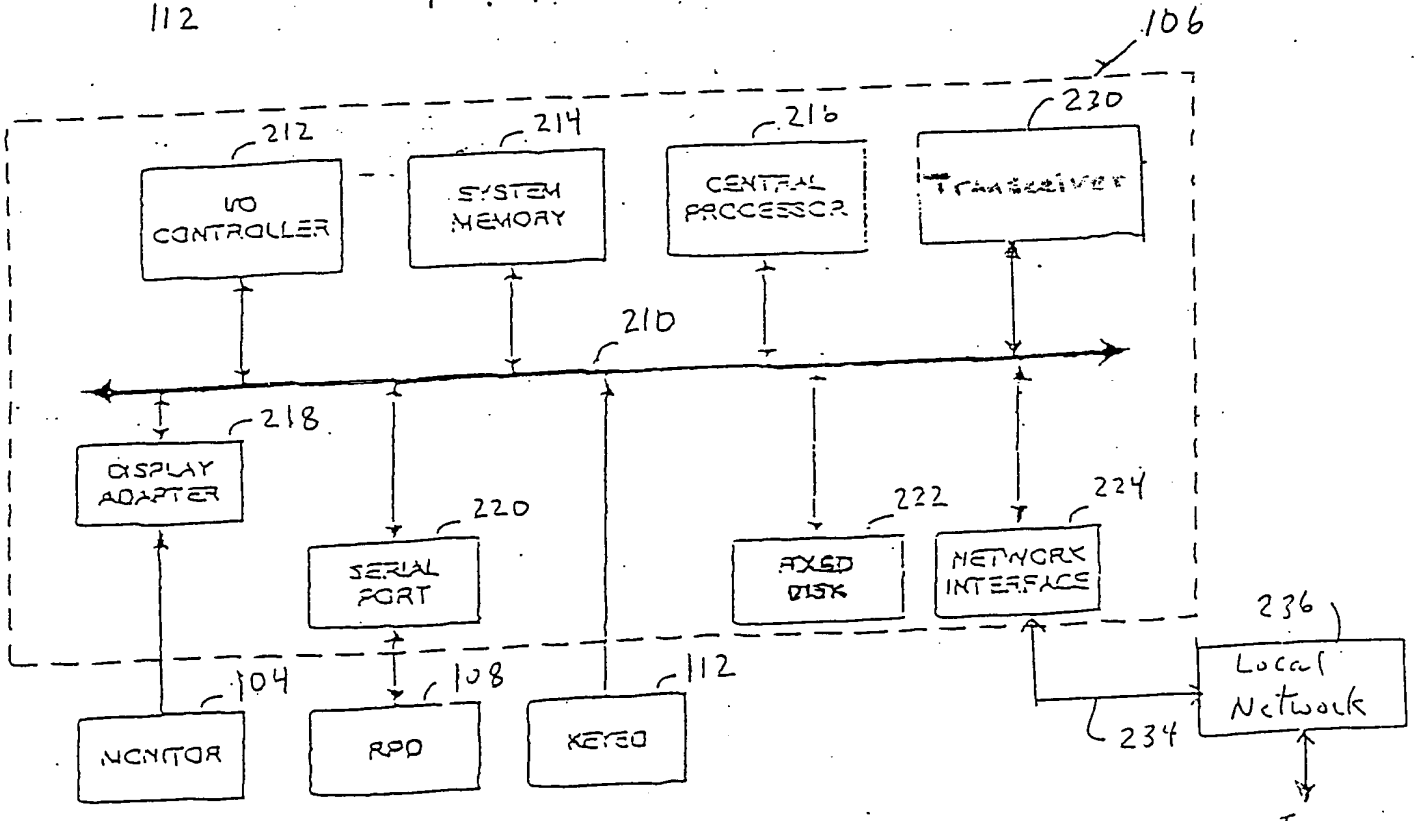
106
212
I/O CONTROLLER
214
SYSTEM MEMORY
216
CENTRAL PROCESSOR
230
TRANSCEIVER
210
218
DISPLAY ADAPTER
220
SERIAL PORT
222
FIXED DISK
224
NETWORK INTERFACE
236
Local Network
234
104
MONITOR
108
MOUSE
112
KEYBD
To Internet

FIG. 2

T08020 "68208760

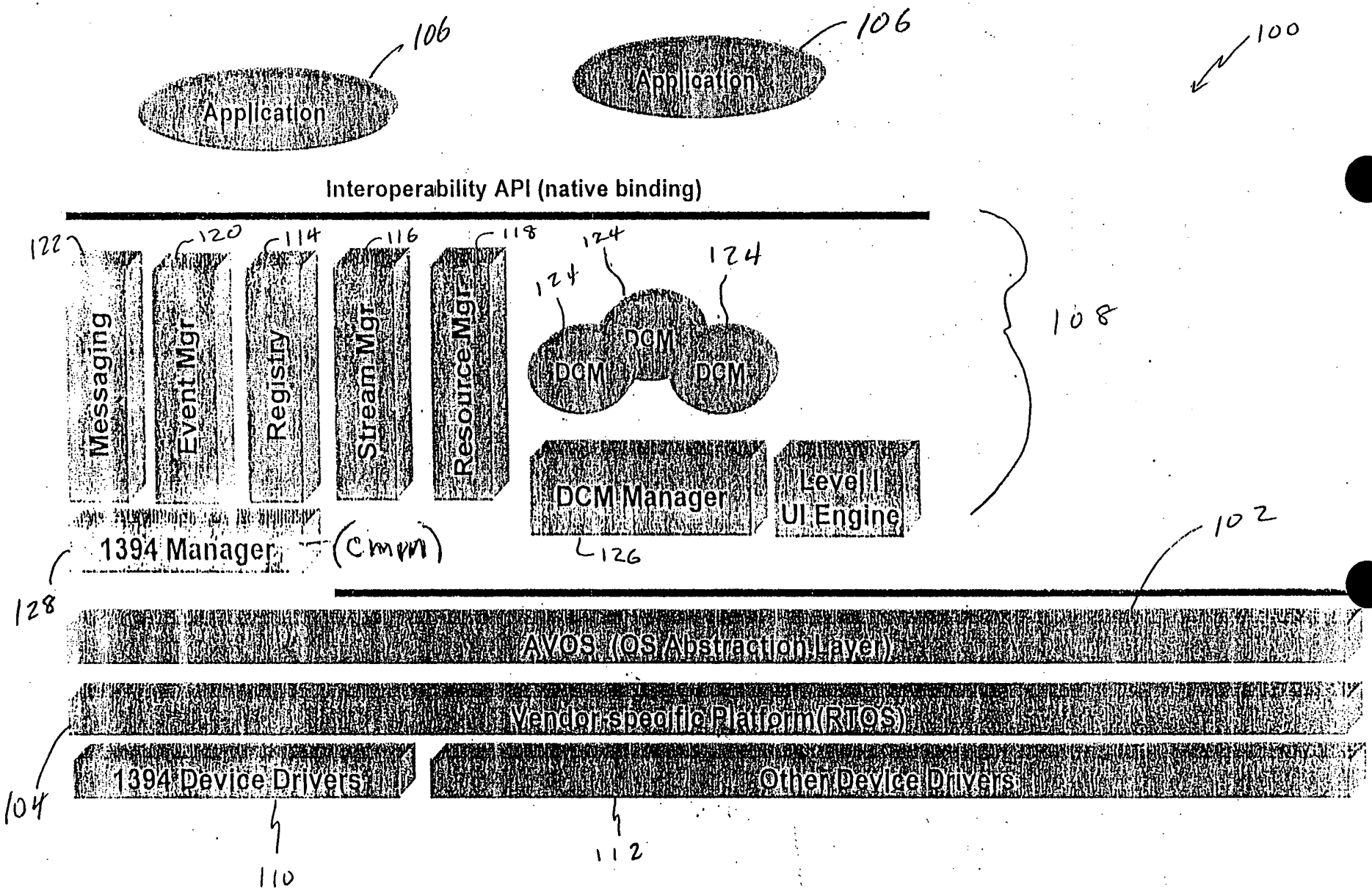

Fig. 3

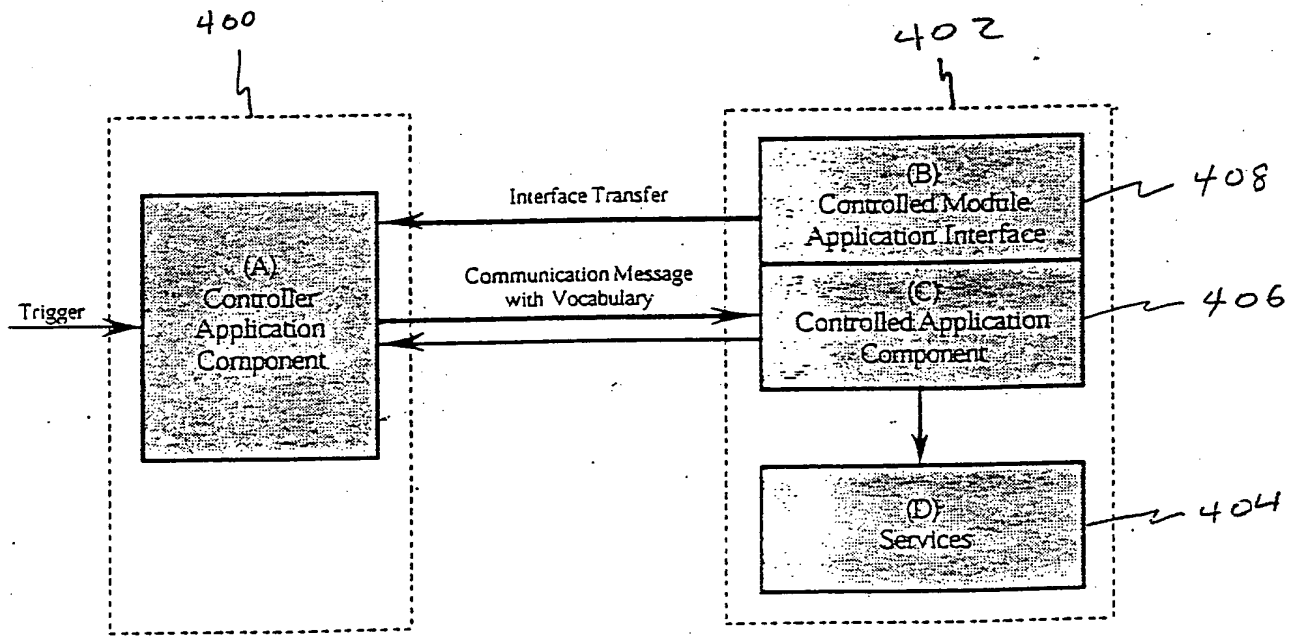
400
402
(A)
Controller
Application
Component
Trigger
Interface Transfer
Communication Message
with Vocabulary
(B)
Controlled Module
Application Interface
(C)
Controlled Application
Component
(D)
Services
408
406
404

Fig. 4

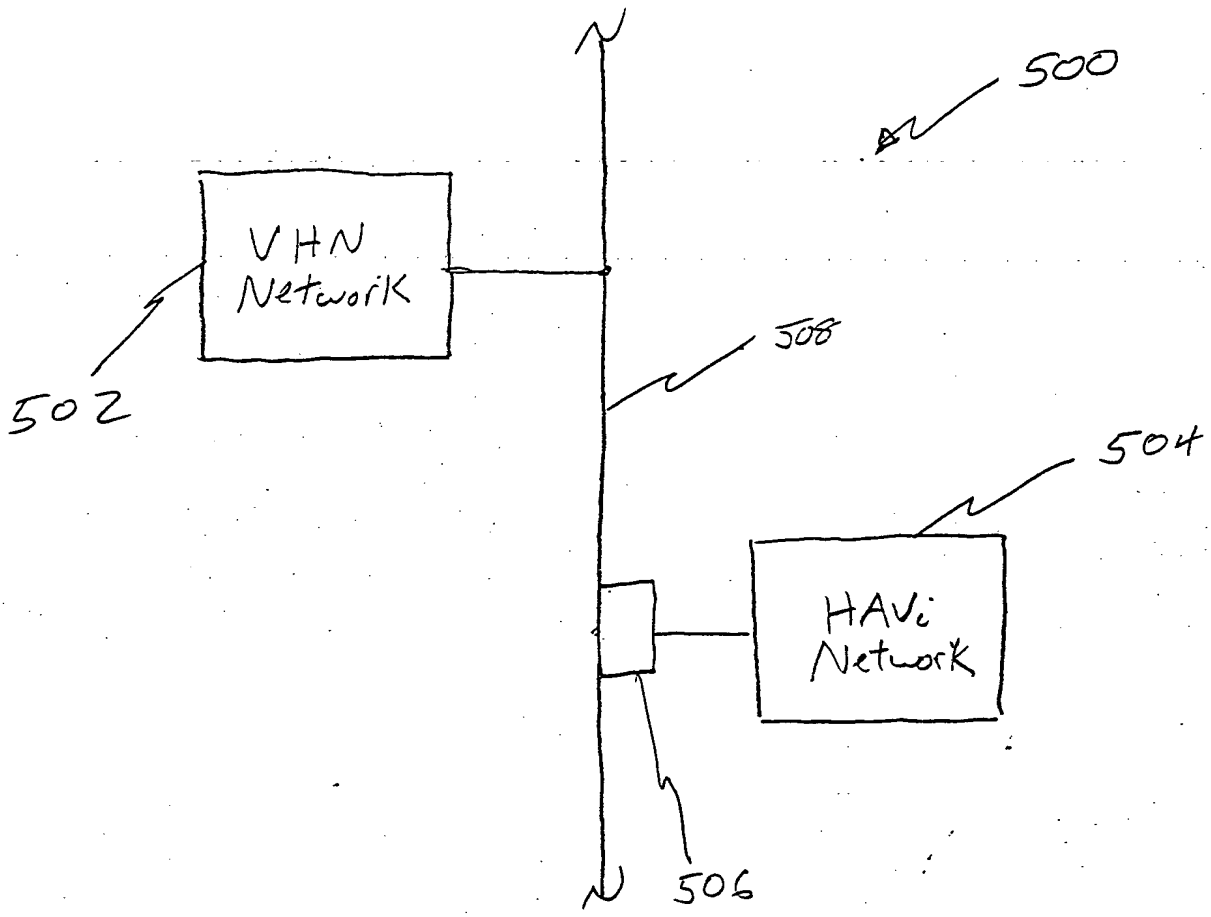

Fig. 5

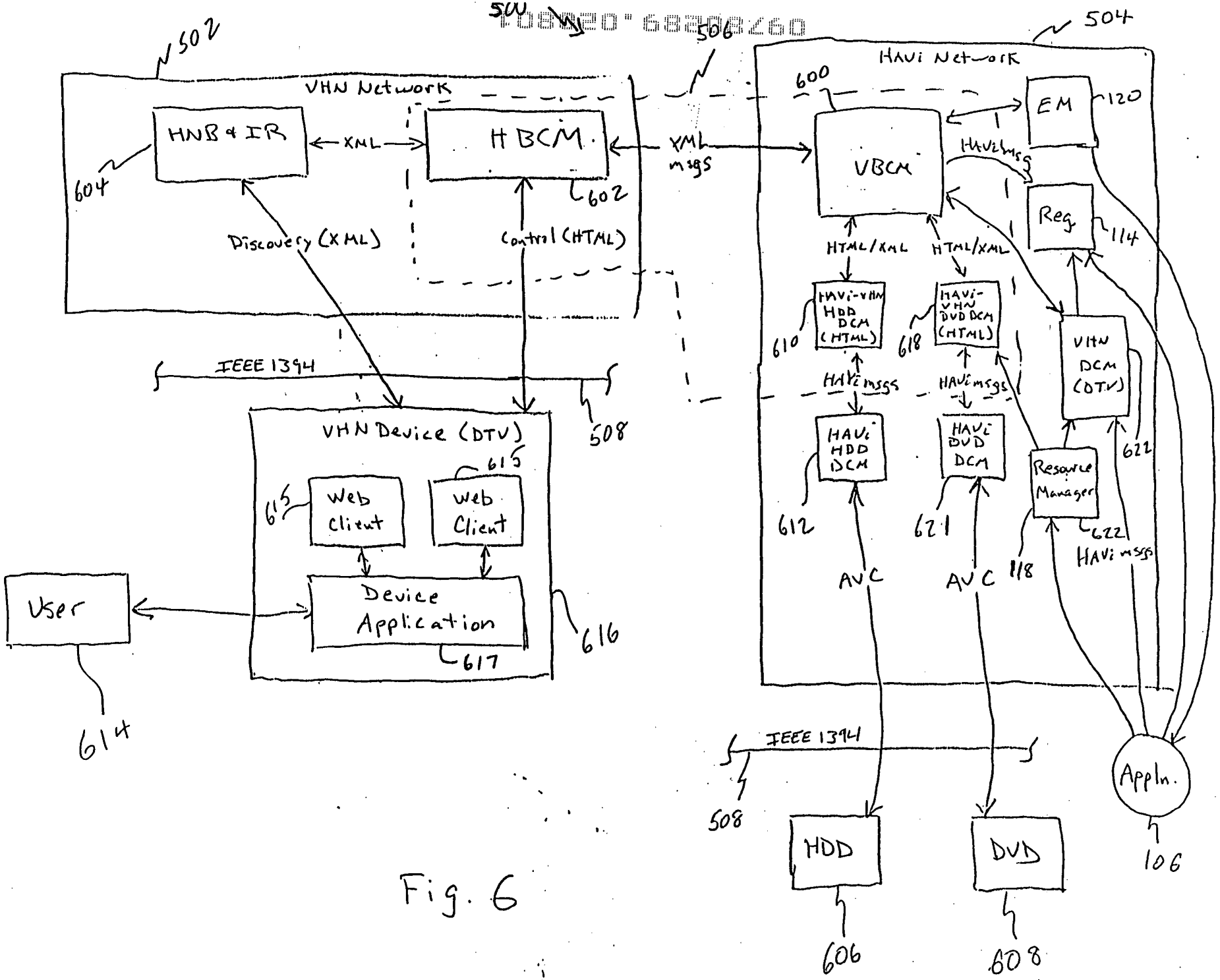
502
VHN Network
HNB & IR
XML
HBCM
604
602
Discovery (XML)
Control (HTML)
IEEE 1394
508
VHN Device (DTV)
615
Web Client
Web Client
User
Device Application
616
617
614
506
XML msgs
504
HAVi Network
600
VBCM
EM
120
HAVi msgs
Reg
114
HTML/XML
HTML/XML
HAVi-VHN HDD DCM (HTML)
HAVi-VHN DVD DCM (HTML)
610
618
HAVi msgs
HAVi msgs
VHN DCM (DTV)
622
HAVi HDD DCM
HAVi DVD DCM
Resource Manager
612
621
622
HAVi msgs
AVC
AVC
118
IEEE 1394
508
HDD
DVD
Appln.
606
608
106

Fig. 6

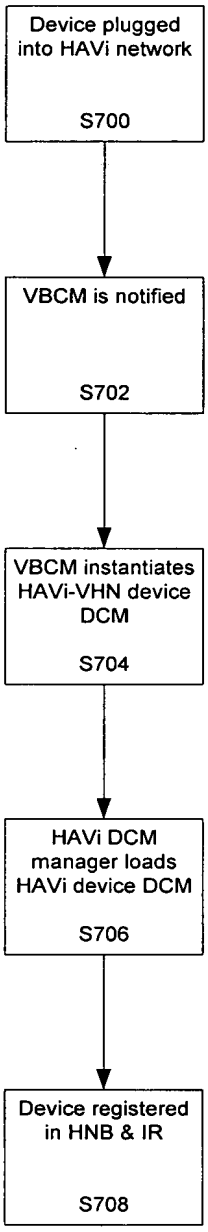
Device plugged into HAVi network
S700
VBCM is notified
S702
VBCM instantiates HAVi-VHN device DCM
S704
HAVi DCM manager loads HAVi device DCM
S706
Device registered in HNB & IR
S708

Fig. 7

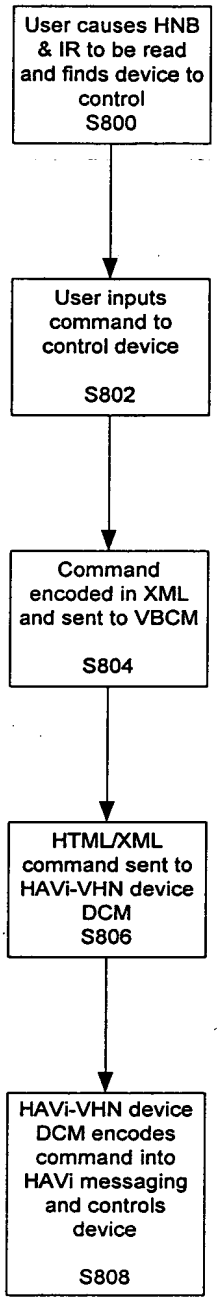
User causes HNB & IR to be read and finds device to control
S800
User inputs command to control device
S802
Command encoded in XML and sent to VBCM
S804
HTML/XML command sent to HAVi-VHN device DCM
S806
HAVi-VHN device DCM encodes command into HAVi messaging and controls device
S808

Fig. 8

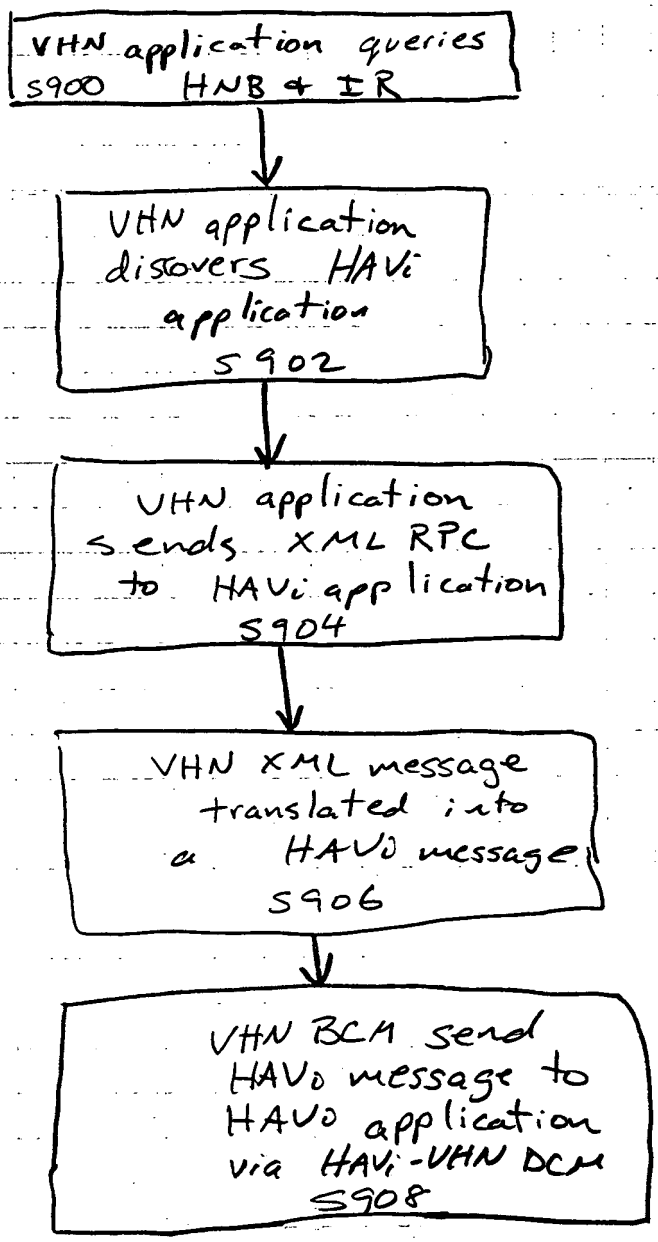
VHN application queries S900 HNB & IR
VHN application discovers HAVi application S902
VHN application sends XML RPC to HAVi application S904
VHN XML message translated into a HAVi message S906
VHN BCM send HAVi message to HAVi application via HAVi-VHN DCM S908

Fig. 9

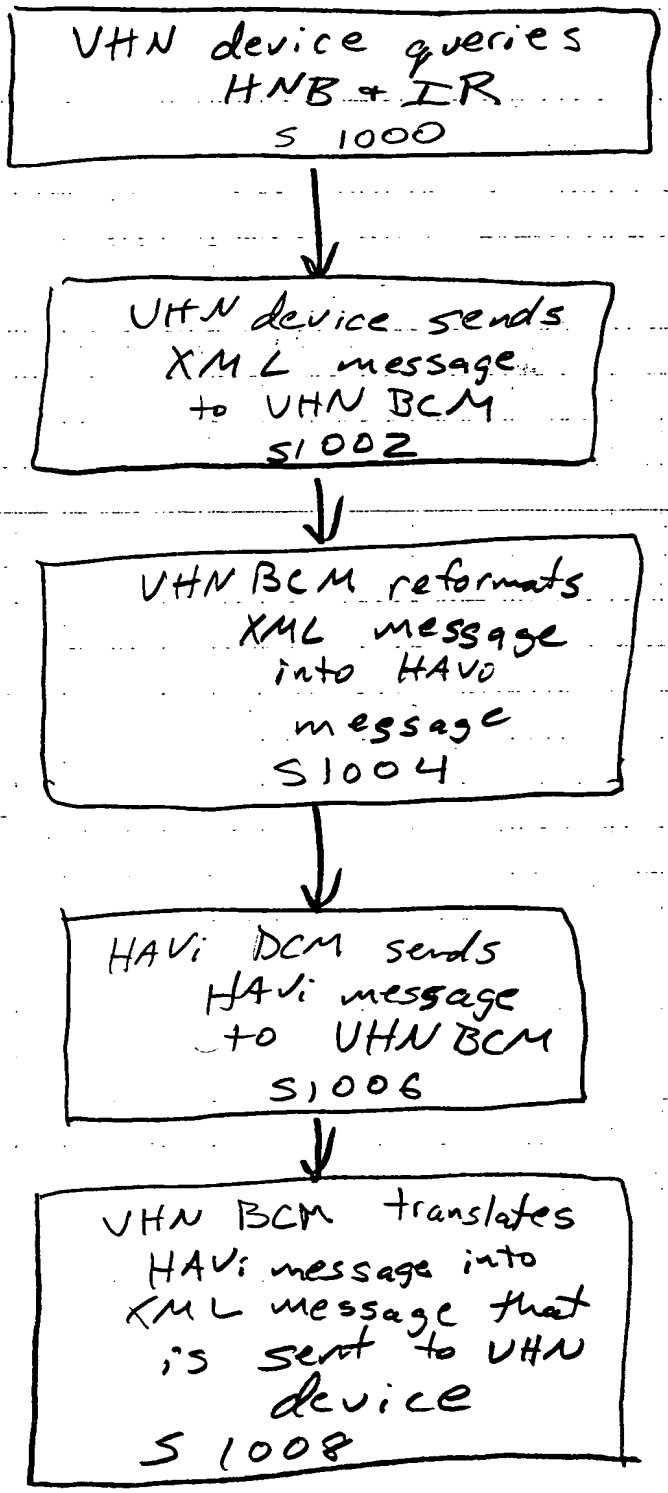
VHN device queries HNB + IR
S 1000
VHN device sends XML message to VHN BCM
S1002
VHN BCM reformats XML message into HAVo message
S1004
HAVi DCM sends HAVi message to VHN BCM
S1006
VHN BCM translates HAVi message into XML message that is sent to VHN device
S 1008

Fig. 10

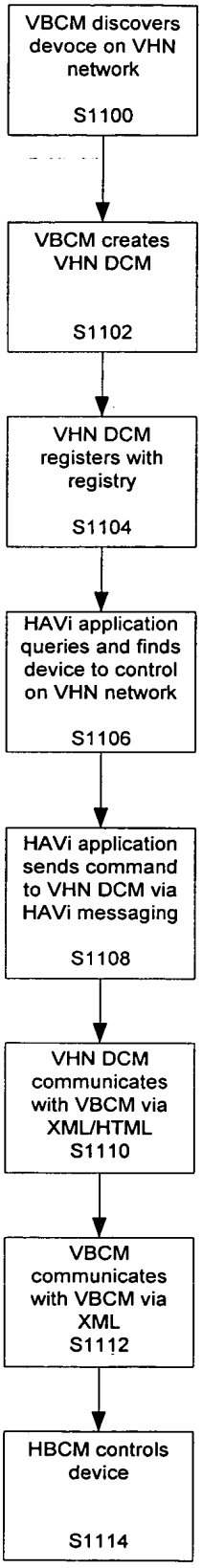
VBCM discovers devoce on VHN network
S1100
VBCM creates VHN DCM
S1102
VHN DCM registers with registry
S1104
HAVi application queries and finds device to control on VHN network
S1106
HAVi application sends command to VHN DCM via HAVi messaging
S1108
VHN DCM communicates with VBCM via XML/HTML
S1110
VBCM communicates with VBCM via XML
S1112
HBCM controls device
S1114

Fig. 11

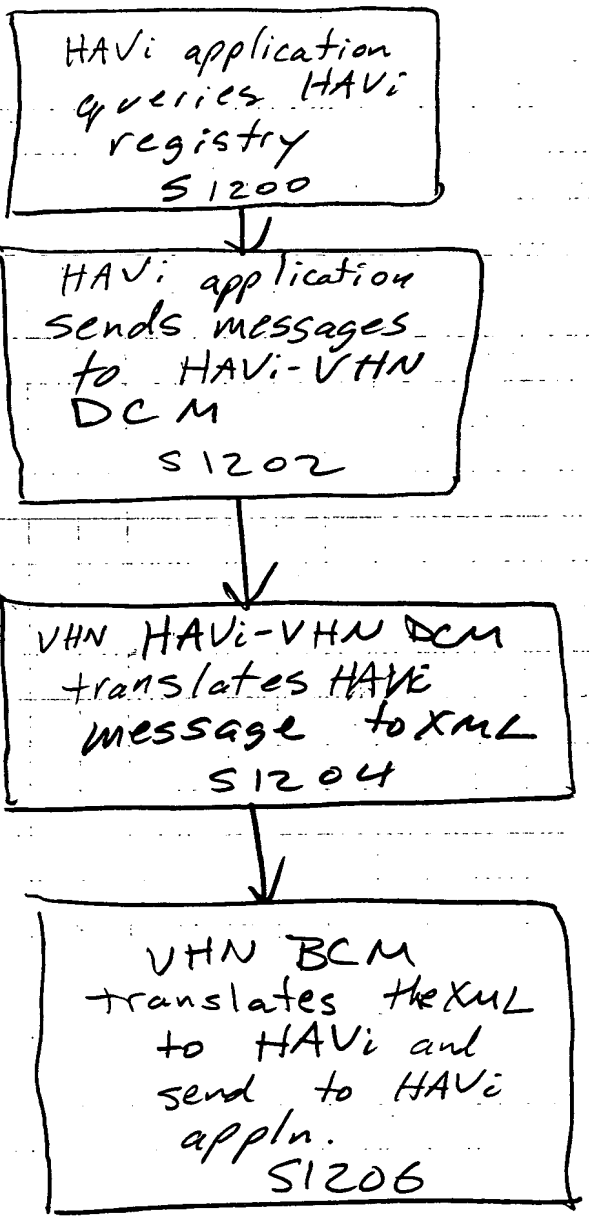
HAVi application queries HAVi registry
S1200
HAVi application sends messages to HAVi-VHN DCM
S1202
VHN HAVi-VHN DCM translates HAVi message to XML
S1204
VHN BCM translates the XML to HAVi and send to HAVi appln.
S1206

Fig. 12

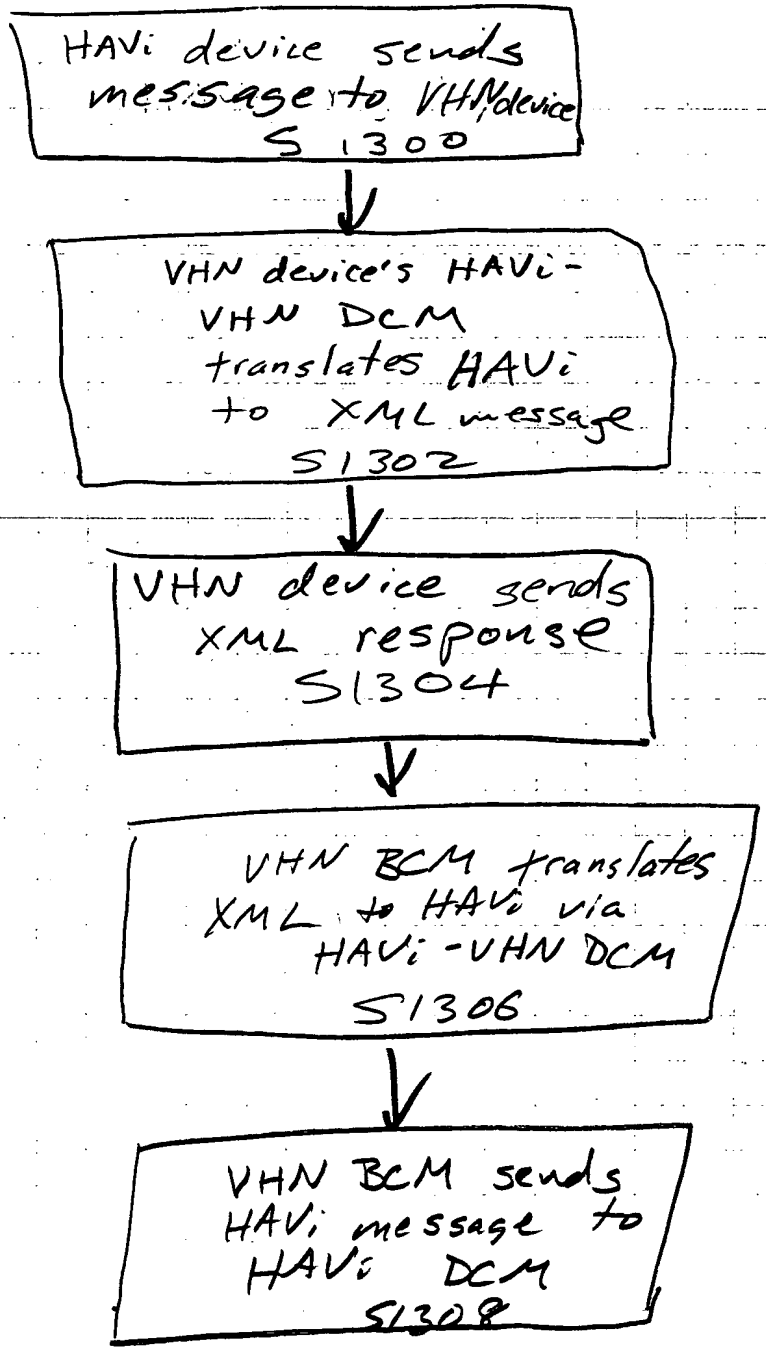
HAVi device sends message to VHN device
S1300
VHN device's HAVi-VHN DCM translates HAVi to XML message
S1302
VHN device sends XML response
S1304
VHN BCM translates XML to HAVi via HAVi-VHN DCM
S1306
VHN BCM sends HAVi message to HAVi DCM
S1308

Fig. 13

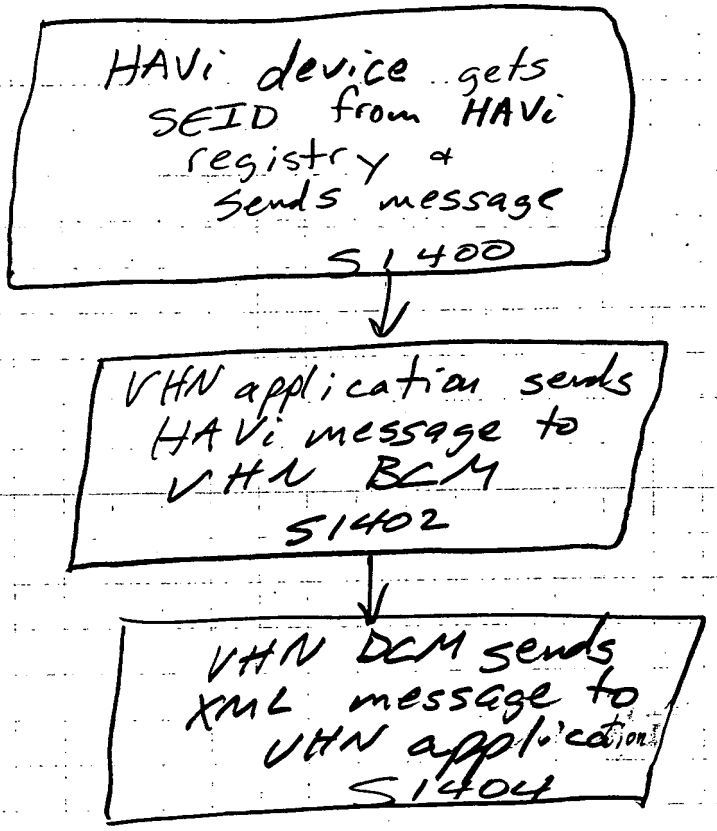
HAVi device gets SEID from HAVi registry & sends message
S1400
VHN application sends HAVi message to VHN BCM
S1402
VHN DCM sends XML message to VHN application
S1404

Fig. 14